AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. The following listing provides the amended claims with deleted material crossed out and new material underlined to show the changes made.

1.-20. (Canceled)

21. (Currently Amended) A method of defining a route for a net in a design layout that has multiple routing layers, wherein the route has a plurality of segments, wherein a set of at least two routing directions are available for routes on a particular layer, the method comprising:

a) for each of at least two available routing directions on a particular layer, defining a ~~an unroutable~~ bloated region about a previously defined geometry on the particular layer, wherein the bloated regions for at least two different routing directions are different; and

b) defining the route for the net by using at least one bloated region for a particular routing direction to determine the portion of the particular layer that is not available for route segments along the particular routing direction.

22. (Currently Amended) The method of claim 21, wherein defining the ~~item's~~ bloated region for a particular direction comprises identifying the bloated region based on the width of the route segment in the particular direction for the particular net.

23. (Original) The method of claim 21, wherein the bloated region is defined based on half of the width of the route segment in the particular direction for the particular net.

24. (Currently Amended) The method of claim 21, wherein defining the ~~item's~~ bloated region for a particular direction comprises identifying the bloated region based on the minimum spacing required between the previously defined geometry ~~item~~ and a route segment in the particular direction for the particular net.

25. (Currently Amended) The method of claim 24, wherein the minimum spacing is the minimum spacing between the previously defined geometry ~~item~~ and the closest edge of a route segment in the particular direction for the particular net.

26. (Currently Amended) The method of claim 24, wherein the minimum spacing is the sum of the minimum spacing between the previously defined geometry ~~item~~ and the closest edge of a route segment in the particular direction for the particular net and an attribute related to the width of the route segment in the particular direction for the particular net.

27. (Original) The method of claim 26, wherein the attribute is half of the width of the route segment in the particular direction for the particular net.

28. (Currently Amended) The method of claim 24, wherein defining the bloated region for a particular direction on the particular layer comprises examining potential locations for placing a route segment in the particular direction about the previously defined ~~particular~~ geometry to identify locations that would result in the route segment being closer to the previously defined ~~particular~~ geometry than the required minimum spacing for the particular direction.

29. (Currently Amended) The method of claim 28, wherein the examining comprises placing a route segment in the particular direction at various locations about the previously defined ~~particular~~ geometry and identifying the locations that would result in the route segment being closer to the previously defined ~~particular~~ geometry than the required minimum spacing for the particular direction.

30. (Currently Amended) The method of claim 28, wherein the previously defined ~~potential~~ geometry is an original geometry, wherein examining potential locations comprises:

defining a new geometry by reducing the size of the original geometry,

placing a route segment in the particular direction at various locations about the new geometry,

identifying the locations that would result in the route segment being closer to the new geometry than the required minimum spacing for the particular direction;

defining a first bloated region from the identified locations; and

defining a second bloated region by expanding the first bloated region.

31. (Original) The method of claim 24, wherein defining the bloated region for a particular direction on the particular layer comprises using an analytical approach to identify the bloated region.

32. (Currently Amended) The method of claim 31, wherein using the analytical approach comprises:

a) identifying a first bloated region by expanding the previously defined ~~particular~~ geometry by the required minimum spacing for the particular direction; and

b) identifying a second bloated region by expanding the first bloated region by the dimensions of a route segment along the particular direction.

33. (Original) The method of claim 31, wherein using at least one bloated region for a particular routing direction comprises using the bloated region during a path search to determine whether an expansion along the particular routing direction is viable.

34. (Currently Amended) A computer readable medium that stores a computer program for defining a route for a net in a design layout that has multiple routing layers, wherein the route has a plurality of segments, wherein a set of at least two routing directions are available for routes on a particular layer, the computer program comprising sets of instructions for:

a) defining, for each of at least two available routing directions on a particular layer, a ~~an unroutable~~ bloated region about a previously defined geometry on the particular layer, wherein the bloated regions for at least two different routing directions are different; and

b) defining the route for the net by using at least one bloated region for a particular routing direction to determine the portion of the particular layer that is not available for route segments along the particular routing direction.

35. (Currently Amended) The computer readable medium of claim 34, wherein the set of instructions for defining the ~~item's~~ bloated region for a particular direction comprises a set of instructions for identifying the bloated region based on the width of the route segment in the particular direction for the particular net.

36. (Original) The computer readable medium of claim 34, wherein the bloated region is defined based on half of the width of the route segment in the particular direction for the particular net.

37. (Currently Amended) The computer readable medium of claim 34, wherein the set of instructions for defining the ~~item's~~ bloated region for a particular direction comprises a set of instructions for identifying the bloated region based on the minimum spacing required between the previously defined geometry ~~item~~ and a route segment in the particular direction for the particular net.

38. (Currently Amended) The computer readable medium of claim 37, wherein the minimum spacing is the minimum spacing between the previously defined geometry ~~item~~ and the closest edge of a route segment in the particular direction for the particular net.

39. (Currently Amended) The computer readable medium of claim 37, wherein the minimum spacing is the sum of the minimum spacing between the previously defined geometry ~~item~~ and the closest edge of a route segment in the particular direction for the particular net and

an attribute related to the width of the route segment in the particular direction for the particular net.

40. (Original) The computer readable medium of claim 39, wherein the attribute is half of the width of the route segment in the particular direction for the particular net.

41. (Currently Amended) The computer readable medium of claim 37, wherein the set of instructions for defining the bloated region for a particular direction on the particular layer comprises a set of instructions for examining potential locations for placing a route segment in the particular direction about the previously defined ~~particular~~ geometry to identify locations that would result in the route segment being closer to the previously defined ~~particular~~ geometry than the required minimum spacing for the particular direction.

42. (Currently Amended) The computer readable medium of claim 41, wherein the set of instructions for examining comprises a set of instructions for placing a route segment in the particular direction at various locations about the previously defined ~~particular~~ geometry and a set of instructions for identifying the locations that would result in the route segment being closer to the previously defined ~~particular~~ geometry than the required minimum spacing for the particular direction.

43. (Currently Amended) The computer readable medium of claim 41, wherein the previously defined ~~potential~~ geometry is an original geometry, wherein the set of instructions for examining potential locations comprises sets of instructions for:

defining a new geometry by reducing the size of the original geometry,

placing a route segment in the particular direction at various locations about the new geometry,

identifying the locations that would result in the route segment being closer to the new geometry than the required minimum spacing for the particular direction;

defining a first bloated region from the identified locations; and

defining a second bloated region by expanding the first bloated region.

44. (Original) The computer readable medium of claim 37, wherein the set of instructions for defining the bloated region for a particular direction on the particular layer comprises a set of instructions for using an analytical approach to identify the bloated region.

45. (Currently Amended) The computer readable medium of claim 44, wherein the set of instructions for using the analytical approach comprises sets of instructions for:

a) identifying a first bloated region by expanding the previously defined ~~particular~~ geometry by the required minimum spacing for the particular direction; and

b) identifying a second bloated region by expanding the first bloated region by the dimensions of a route segment along the particular direction.

46. (Original) The computer readable medium of claim 44, wherein the set of instructions for using at least one bloated region for a particular routing direction comprises a set of instructions for using the bloated region during a path search to determine whether an expansion along the particular routing direction is viable.

47. (New) The method of claim 21, wherein, for each particular routing direction, the bloated region of the previously defined geometry defines a region in which the route cannot be defined along the particular routing direction.

48. (New) The computer readable medium of claim 34, wherein, for each particular routing direction, the bloated region of the previously defined geometry defines a region in which the route cannot be defined along the particular routing direction.